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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER

LAWRENCE JR, FRANK M

ART UNIT	PAPER NUMBER
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1724

DATE MAILED: 04/22/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/072,868	Applicant(s) BERNS ET AL.	
	Examiner Frank M. Lawrence	Art Unit 1724	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 23 March 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20,22-28,30 and 32-54 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 11,26-28,30,32-40,44-48 and 54 is/are allowed.
- 6) ☒ Claim(s) 1,2,5-8,12-20,22-25,41 and 49-53 is/are rejected.
- 7) ☒ Claim(s) 3,4,9,10,42 and 43 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Specification

1. The disclosure is objected to because of the following informalities: In line 6 of claim 12, “; and” should be inserted for clarity after “counter”.

Appropriate correction is required.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claim 41 is rejected under 35 U.S.C. 102(b) as being anticipated by Reintjes et al. ‘320.
4. Reintjes et al. ‘320 teach a system for *in situ* particle counting in an automobile or aircraft engine lubrication system, comprising an external pump (16), a flow conduit (14) for supplying and removing fluid from the system, an optical particle counter (26) for analyzing particle size in the conduit, a cable (28) for transmitting count data to a computer to produce a histogram, and a timing clock for controlling sampling durations (figure 1, col. 1, lines 10-55, col. 2, lines 20-39, col. 3, lines 6-27). Because the system can be used *in situ* in an automobile or aircraft engine, it will be used at varying engine loads.
5. Claims 18-20 are rejected under 35 U.S.C. 102(b) as being anticipated by Haarstad et al. (4,496,460).
6. Haarstad et al. ‘460 teach a filtration loop for cleaning a lubricant fluid from a vehicle engine, comprising a pump (12) for drawing fluid, a strainer filter (18) upstream of the pump,

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and a second filter (26,54) downstream of the pump for removing smaller particulates (figure 4, col. 1, lines 11-26, 60-67, col. 4, lines 14-30).

7. Claims 1, 2, 5-8, 12-19, 22, 25, 41 and 49-52 are rejected under 35 U.S.C. 102(b) as being anticipated by Verdegan et al. '371.

8. Verdegan et al. '371 teach a system for on-line particle counting in an automobile engine lubrication system, comprising an engine (14), an oil circulation loop (20), an external pump (18) for circulating oil and draining to a sump (16), a filter (12) upstream of the pump via the circulation loop, optical particle counting sensors (26, 28, 30) upstream (unfiltered) and downstream from the filter, an initializing step (46) for the system, a controller (22) and timer (48) for controlling sampling, and a display (24) for indicating results to an operator (figure 1, col. 1, lines 5-11, 36-47, col. 7, lines 23-44, col. 9, lines 27-33, col. 10, lines 27-31). The system may be used to indicate the need for a filter change by an operator or can initiate an automatic filter cleaning cycle (col. 10, lines 31-38) when the particle count is too high, after which a second sampling period will take place with the new or cleaned filter, meeting the limitation of initiating operation of a filtration system when the characteristic of cleanliness exceeds a threshold value. The system can indicate imminent catastrophic failure if large or highly reflective particles become present in a high concentration (col. 4, lines 21-32). Because the system can be used on-line in an automobile engine, it will be used at varying engine loads (col. 2, lines 45-48).

Claim Rejections - 35 USC § 103

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

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(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

10. Claims 23, 24 and 53 are rejected under 35 U.S.C. 103(a) as being unpatentable over Verdegan et al. '371.

11. Verdegan et al. '371 disclose all of the limitations of the claims except that the running of the engine is halted in response to cleanliness characteristics. It would have also been obvious to halt engine operation in response to the indication of imminent catastrophic failure that is taught in the patent in order to prevent excessive damage and maintenance requirements.

Allowable Subject Matter

12. Claims 11, 26-28, 30, 32-40, 44-48 and 54 are allowed.

13. The following is an examiner's statement of reasons for allowance: Claims 11 and 32 have been amended to incorporate limitations that were indicated as allowable in the previous office action. The prior art fails to disclose or suggest the step of making recommendations to an engine builder based on an analysis of the characteristic of the cleanliness of the engine fluid in claim 11 or health of the engine in claim 32. Claim 26 recites that information derived from the particle counter system is used to determine a characteristic of cleanliness of the engine fluid during operation of the engine at a plurality of engine loads during the dynamometer test, which is not suggested in the prior art. Claim 27 recites that the operation of the filtration system is initiated during the first period if the characteristic of cleanliness measured by the particle counter exceeds a threshold value during the first time period, which distinguishes over the Verdegan et al. patent's disclosure of initiating a filtration system during a separate period.

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Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

14. Claims 3, 4, 9, 10, 42 and 43 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Response to Arguments

15. Applicant's arguments filed March 23, 2004 have been fully considered but they are not persuasive. The examiner agrees with applicant's argument that the Reintjes et al. patent fails to disclose the use of a filtration system as recited in the amended claims. The rejections of those claims over Reinjes et al. are withdrawn, however new claim 41 is rejected because it recites no filtration system.

16. Applicant also argues that the Verdegan et al. patent fails to disclose initiating the operation of the filtration system when the particle count exceeds a threshold value as recited in claims 1 and 12, or operating the filtration system during a second period of time when the value is reached as recited in claim 22, however it is submitted that the step of operating takes place in the patent during a second period after the threshold value is detected and the filter is replaced by an operator or automatically cleaned as discussed in the rejection above. Claim 27 is allowed because it recites that that the operation initiation takes place during the first period when the value is exceeded during the first period.

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17. With respect to claims 18 and 26, applicant argues that the Verdegan et al. patent fails to disclose filter cleaning or detecting during an engine dynamometer test. The examiner agrees with this argument regarding amended claim 26 because the last line provides a link that the dynamometer test is a physical part of the system that affects the operation of components, however claim 18 does not contain any limitation that further limits the recited structure in a way that distinguishes over the disclosure of the Verdegan et al. patent, which teaches each element of the claim that is positively recited. Note that a new rejection of claim 18-20 over Haarstad et al. is presented to address the amendment to claim 20. Because of the amendment to claim 20, the rejection of the claim over Verdegan et al. is withdrawn.

18. With respect to claims 23 and 53, applicant argues that no *prima facie* case of obviousness has been established for halting the running of the engine. In response to applicant's argument, the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case, one having ordinary skill in the art would understand that halting the engine operation would be necessary in response to the indication of imminent catastrophic failure as discussed in paragraph 11 above.

19. With respect to claims 3 and 4, the examiner agrees with applicant's arguments that there is no motivation to combine the teaching of Niles to modify the system of Verdegan et al. to

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incorporate operating the engine in a dynamometer test during measuring, and the rejection of claims 3 and 4 has been withdrawn.

Conclusion

20. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Frank M. Lawrence whose telephone number is 571-272-1161. The examiner can normally be reached on Mon-Thurs 7:30-6:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Blaine Copenheaver can be reached on 571-272-1156. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Frank M. Lawrence
Primary Examiner
Art Unit 1724

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Frank Lawrence
4-19-04